

## TABLE OF CONTENTS

<b><u>Section</u></b>	<b><u>Page</u></b>
Table of Contents	i
List of Tables	iii
List of Figures	iv
Acknowledgments and Contributing Authors	vi
Preface	vii
 Section 1: Past and Present Trends in Washington's Natural Gas Market	 1
Introduction	1
Background	1
Past Trends and the Energy Crisis	4
Post Crisis Period	13
 Section 2: North American Natural Gas Resources	 15
Introduction	15
Proved Natural Gas Resources	16
Reserve Additions	18
Potential Natural Gas Resources	18
Economic or Commercial Gas Resource Base	22
Canadian and Mexican Natural Gas Resources	22
Federal Access Restrictions	23
Assessing the Estimates of Natural Gas Resources	24
Summary	25
 Section 3: North American Gas Production	 26
Canadian Natural Gas Production	26
Rocky Mountain Natural Gas Production	30
Gas Production in Other Basins	30
Mexican Production	32
Future Natural Gas Supply	32
Production from a Mature Resource Base	34
Summary	36
 Section 4: Future Natural Gas Supply and Production	 37
Arctic Natural Gas	37
Northern Canada	38
Liquified Natural Gas Imports	39
Natural Gas Hydrates	45
Summary	45
 Section 5: Recent Supply and Demand Forecasts	 46
Long-term Supply Forecasts	46
Supply and Demand Reassessment	49
Reasons for Recent Reductions in North American Supply Forecasts	51

Long-term Demand Forecasts	52
Demand Forecast for the Pacific Northwest	53
Summary	54
Section 6: Natural Gas Prices, Volatility, and Forecasts	56
Components of Natural Gas Price	56
Recent Price Volatility in the Natural Gas Market: 2000 - 2003	56
Supply Limitations - Primary Cause of Recent Natural Gas Price Volatility	58
Key Drivers of Natural Gas Price and Volatility	59
Factors that Mitigate Price Volatility	62
Extent of Recent Fuel Switching and Demand Destruction	65
Economic Consequences of High Natural Gas Prices	65
Natural Gas Price Forecasts	66
Summary	69
Section 7: Natural Gas Pipeline and Storage Capacity	70
Introduction	70
Western North America Pipeline System Overview	73
National Energy & Gas Transmission Northwest (GTN)	83
Duke Energy Gas Transmission West (DEGT West)	86
Natural Gas Storage	92
Section 8: Summary	94
Recent History	94
Supply	94
Demand	94
Natural Gas Price Volatility	96
Infrastructure	97
Section 9: Natural Gas Policy Issues and Recommendations	98
National Policy Issues Framed in Recent Reports	98
State Policy Issues, Opportunities and Questions	100
Next Steps	105
References	Ref-1
Appendices	
A: Peak Natural Gas Production Prospects for North America	A-1
B: Proposed North American LNG Facilities and Transportation Costs for Existing Facilities	B-1
C: Price Demand Dynamics in the Natural Gas Market	C-1
D: Utility Energy Efficiency Programs	D-1
E: Tools for Natural Gas Portfolio Management	E-1